

**WHAT IS CLAIMED IS:**

1. A bi-point detection type heart-rate monitor comprising:  
two electrically conductive contact terminals for the touching of the two  
5 hands or feet of a person;  
an amplifier-filter circuit adapted to sample impedance signal between said  
contact terminals, to amplify the impulse of the sampled impedance signal, and to  
remove noises from the sampled impedance signal;  
a waveform converter adapted to rectify outputted waveform from said  
10 amplifier-filter circuit into a square wave; and  
a processing and output circuit adapted to receive and process the square  
wave signal outputted by said wave form converter, to obtain the mean frequency of  
peaks of the received square wave signal by means of a computing process, and to  
output the frequency value thus obtained to a display unit for display.
- 15 2. The bi-point detection type heart-rate monitor as claimed in claim 1  
further comprising a detection unit adapted to detect simultaneous touching of said  
contact terminals by the person to be examined, and to let said processing and output  
circuit output said frequency value to said display unit when the detection result is  
positive.
- 20 3. The bi-point detection type heart-rate monitor as claimed in claim 2,  
wherein said detection unit comprises two infrared transmitting receiving devices  
respectively installed in said contact terminals, and a detection circuit adapted to detect  
triggering of said infrared transmitting receiving devices.
4. The bi-point detection type heart-rate monitor as claimed in claim 3,  
25 wherein said infrared transmitting receiving devices are respectively located on the

geographical center of said contact terminals.

5        5. The bi-point detection type heart-rate monitor as claimed in claim 4,  
wherein said contact terminals each have a hole disposed at the respective geographical  
center and adapted to accommodate said infrared transmitting receiving devices  
5        respectively.

6. The bi-point detection type heart-rate monitor as claimed in claim 2,  
wherein said detection unit comprises two thin-film switches respectively installed in  
said contact terminals, and a detection circuit adapted to detect triggering of said  
thin-film switches.

10        7. The bi-point detection type heart-rate monitor as claimed in claim 2,  
wherein said detection unit comprises two micro switches respectively installed in said  
contact terminals, and a detection circuit adapted to detect triggering of said micro  
switches.

8. The bi-point detection type heart-rate monitor as claimed in claim 1,  
15        wherein said processing and output circuit is a microprocessor.

9. A bi-point detection type heart-rate monitoring method comprising the  
steps of:

(a) letting the hands (legs) of the person to be examined hold a respective  
contact terminal;

20        (b) using a circuit to apply a predetermined voltage to the two contact  
terminals in contact the hands (legs) of the person to be examined, and then measuring  
the impedance signal between the two contact terminals;

(c) driving an amplifier-filter circuit to amplify the impedance signal thus  
measured and to remove noises from the signal;

25        (d) driving a waveform converter to rectify outputted waveform from the

amplifier-filter circuit into a square wave;

(e) driving a processing and output circuit to receive and process the square wave signal outputted by said wave form converter, to obtain the mean frequency of peaks of the received square wave signal by means of a computing process, and to  
5 output the frequency value thus obtained to a display unit for display.

10. The bi-point detection type heart-rate monitoring method as claimed in claim 1 further comprising a sub-step of driving a detection unit to detect contact between the hands (legs) of the person to be examined and the respective contact terminals before step (a), and then proceeding to step (b) only when positive contact  
10 between the hands (legs) of the person to be examined and the respective contact terminals has been detected.

11. The bi-point detection type heart-rate monitoring method as claimed in claim 10, wherein said sub-step further stopping the monitoring action when said detection unit detected the hands (legs) of the person to be examined not  
15 simultaneously touched the respective contact terminals.

12. The bi-point detection type heart-rate monitoring method as claimed in claim 10, wherein said sub-step further producing a warning signal when said detection unit detected the hands (legs) of the person to be examined not simultaneously touched the respective contact terminals.